

CONTINENTAL OIL COMPANY

RESEARCH AND DEVELOPMENT DEPARTMENT

ANALYTICAL RESEARCH SECTION
RESEARCH SERVICES DIVISION

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TECHNICAL SERVICE REPORT

NO. 467-74-802-0
November 4, 1974

ADDRESS INQUIRY TO:

R. E. Laramy

TO: Dr. Flynt Kennedy

SUBJECT: MANUFACTURING CHEMISTS ASSOCIATION (MCA) VINYL CHLORIDE MONOMER (VCM)
SUB-TASK GROUP MEETING

On 1 November 1974, I represented you at the meeting of the Industrial Hygiene and Monitoring Sub-Task Group of the Technical Task Group on Vinyl Chloride Research in the MCA offices in Washington, D. C. In attendance were the following:

1. Richard Henderson, Olin (leader)
2. Z. G. Bell, Jr., PPG
3. L. B. Crider, BFG
4. R. E. Laramy, CONOCO (for F. Kennedy)
5. K. D. Johnson, MCA

The objectives of the meeting were to review the sampling, monitoring and analytical requirements of the permanent standard for vinyl chloride and to discuss means of compliance. The meeting convened at 1000 hours, and the first item of discussion was to determine if the confidence limits expressed in the standard applied strictly to the analytical portion, the sampling portion or a combination of both. Dr. Johnson (MCA) was of the opinion that the standard applied to both the analytical and monitoring. However, the consensus of opinion among the other members was that it applied strictly to the analytical method, the monitoring being covered in the preamble as any method statistically accurate (whatever that means!). The report we had submitted on air-bag-sampling precision was next discussed. Henderson brought the report with him but had not circulated it to the other members. They were quite interested and obtained copies. Crider (BFG) had just finished a project on evaluation of charcoal adsorption of VCM with subsequent desorption with CS₂. He stated that the method could be used with $\pm 4\%$ accuracy. However, he was vague as to what levels were determined and as to what this $\pm 1\%$ meant. The project had just been completed in his labs, and he promised to mail me a copy. He also stated that this work was done at their Research Center and he very much doubted that such accuracy or precision could be obtained in their plant laboratories. In fact, he was opposed to advocating this method for plant control. They are also working on a method of charcoal adsorption of VCM with subsequent elution with heat directly into a gas chromatograph. Preliminary results look very good. He is using the heat desorption apparatus manufactured by Bendix. They have also designed one of their own primarily because acquisition of the Bendix units has a delay of between three and six months. This may prove to be a useful technique to obtain eight-hour TWA's.

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Some discussion was held on the statement in the standard, " . . . that methods meeting the accuracy requirements are available in the NIOSH Manual of Analytical Methods." I had a copy of this method with me and it states that the accuracy and precision are unknown. This hardly seems an acceptable method.

Fixed-point-continuous monitors were next discussed. Both PPG and BFG stated that they obtain no correlation between fixed-point and personal monitors. However, BFG is using total hydrocarbon analyzers and only six-point monitors. PPG is using chromatographic detectors, but Bell was vague as to how many points were being monitored. In view of Dow's finding, i.e. good correlation between the two, I conclude that the data from both BFG and PPG are not inclusive enough. My opinion is that with our current program, continuous monitors will indeed replace personal monitors with perhaps the exception of maintenance personnel.

A general discussion was then held on what each company was doing with regard to monitoring and what changes, if any, were anticipated to conform to the standard as of 1 January 1975. The consensus was that each company is doing monitoring in its own way and needs to do additional analytical work to confirm if it can meet the proposed precision requirements. It appeared we had done more work on precision than any of those represented, but we were the only ones using air bags. There seems to be great reluctance to the concept of wearing an air bag. Why I do not know. A program of round-robin testing was proposed by Henderson, but the others felt this premature since no two companies are analyzing or monitoring in the same way. Instead it was decided to wait and see how OSHA plans to police the standard and adjust our monitoring accordingly. Crider (BFG) stated that OSHA is supposed to issue their plan by mid November and suggested each company in the committee contact its regional OSHA office to obtain a copy.

The final item of business was that Henderson wishes to relinquish his job as chairman of the committee. Johnson suggested he go through Torkelson to accomplish this. No time was set for the next meeting; this was left up to the chairman to call a meeting when he felt it necessary.

It was somewhat gratifying to find out that the other companies represented are also confused as to the intent of the standard and how to go about complying with it. I feel CONOCO is as "on top" of the situation as those other companies represented.

R.E. Laramy by GP

R. E. Laramy
Research Group Leader
Separations Analysis Group

APPROVED: 11-4-74

Gerald Perkins, Jr.
Gerald Perkins, Jr.
Director
Analytical Research Section

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Copies to: DBB-GP

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